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TABLE OF CONTENTS.

PAGE.

Editorial Articles:—George Thurber.—Forest Legislation in Congress 173
The Parterre, Fontainebleau. (Illustrated.)..... 174
Methods of Botanical Study.....*Professor W. J. Beal.* 174
Exotic Palms in Florida .....*Theodore L. Mead.* 175
New or Little Known Plants:—Lycoris squamigera. (With figure.)...*S. W.* 176
Cultural Department:—The Comparative Liability of Trees to Disease.
J. G. Jack. 176
Grapes for Family Use.....*E. Williams.* 178
Stapelias.....*W. Watson.* 179
Orchid Notes .....*J. Weathers.* 180
Andromeda floribunda, Cercidiphyllum Japonicum.....*Joseph Meehan.* 180
Foxgloves, Japanese Anemones.....*H.* 181
Perpetual Carnations.....*John Thorpe.* 181
Correspondence:—An American Arboretum in Germany.....*H. Christ.* 181
Common Names of Plants .....*Edward L. Rand.* 182
Notes on a Few Plants in West Virginia .....*W. E. Hill.* 182
A Chart of Standard Colors .....*Max Leichtlin, Professor L. H. Bailey.* 183
Easter Flowers .....*S.* 183
Recent Publications..... 183
Recent Plant Portraits..... 183
Notes..... 184
Illustrations:—Lycoris squamigera, Fig. 32..... 177
The Parterre, Fontainebleau..... 179

George Thurber.

THE death of Dr. George Thurber ends the career of the most accomplished horticultural writer America has produced. Dr. Thurber was born in Providence, Rhode Island, in 1821, and early became interested in botany in connection with pharmaceutical studies which he took up in preparation for his business as an apothecary, which he conducted in his native city. His love of plants, however, was strong, and brought him into relations with Dr. John Torrey, of this city, then the leader among American botanists and a man whose influence was widely felt. It changed entirely Thurber's career, and secured for him, in 1850, the position of naturalist, to which were added the duties of quartermaster and commissary, of the United States and Mexican Boundary Survey. He was attached to the headquarter's party under command of Mr. John Russell Bartlett, the principal commissioner for the United States, and was actively engaged during four years in exploring the natural products of the country between the Gulf of Mexico and the Pacific Ocean. These journeys extended to nearly five thousand miles, and carried the party into regions which were, at that time, entirely unknown, scientifically. Thurber "was indefatigable," to use Mr. Bartlett's words, "in his exertions to make thorough examinations and complete collections of everything belonging to his department." He discovered many new plants within the limits of the United States and in northern Mexico, where the party made several long and exceedingly arduous journeys. The most interesting of his new plants were published by Asa Gray ("Plantæ Novæ Thurberianæ") in 1854, the name of the discoverer being there commemorated in a new Hibiscus-like plant, *Thurberia thespesioides*, which he had found in Sonora in 1851.

Dr. Thurber, the duties of the Commission being completed, returned to this city and accepted a position in the Assay office, from which he resigned on account of political differences with the authorities, and devoted himself to chemical and botanical studies, lecturing on these subjects at the Cooper Union and before the New York College of Pharmacy. In 1859 he was chosen to the Professorship of Botany and Horticulture in the Agricultural College of Michigan, a position which he held until 1863, when he became editor of the *American Agriculturist*, of this city. This place he filled with singular success for twenty-two years, when he was compelled, by failing health, to relinquish the active control of the paper, although he continued to contribute to its columns and give it the benefit of his counsel until within a few months of his death. Dr. Thurber's influence as editor of a widely read popular journal was great. His writing was characterized always by sound common sense based on exact knowledge of many subjects, and they did more in his time to elevate the standing of the agricultural and horticultural press of the country than the writings of any other man. He possessed a charming style and a rare facility for explaining the most complex subjects in clear and simple language. This gift made the "Doctor's Talks," which he contributed during many years to the *American Agriculturist*, and which were intended to instruct young people upon scientific subjects, models of their kind. Of horticultural matters he wrote out of a full knowledge, as his garden at Passaic, New Jersey, an experimental garden in the true sense of the word, was one of the most interesting in this country. In this garden he found the pleasures of his later years, and these pleasures he shared with the public through his "Notes from the Pines."

Dr. Thurber's editorial work was not confined to the columns of the *American Agriculturist*. The publishers of that journal were large publishers, also, of books relating to country life, and most of these passed under Dr. Thurber's critical eye, or, in some cases, were entirely rewritten by his hand. He published, in 1859, "American Weeds and Useful Plants," an enlarged and greatly improved edition of Darlington's "Agricultural Botany," which is still the standard work on the subject, and he contributed the articles upon botanical subjects to "Appleton's Cyclopædia." Dr. Thurber's predilections in botany were for what may be called agricultural botany. This led him to make a systematic study of Grasses, and his knowledge of these plants was unequaled for many years in the United States. It was his intention to prepare a monograph of American Grasses, but editorial duties and failing health, undermined by the hardships of the Mexican boundary, compelled him to abandon this undertaking, for which he was otherwise admirably equipped; and of late years he has been able to do little beyond occasional contributions to the press. His very last work, written almost on his death-bed, was published in this journal a few weeks ago.

Dr. Thurber was a man of great knowledge and of the broadest sympathies; kind, faithful and true, generous to a fault, simple in the ways of the world, and always more interested in the welfare of others than in advancing his own interests. His death removes an interesting and picturesque figure, and a man who will never be forgotten by his friends.

The bill for the protection of forest-lands on the public domain, which was introduced in the House of Representatives by Mr. Dunnell, of Minnesota, embodies substantially the provisions which have been advocated in these columns—namely, the withdrawal of all government forest-land from sale and entry, and the temporary protection of such forests by the army until a competent Commission, appointed by the President, shall report a plan for their permanent administration. This bill goes before a sub-committee of the Public Lands Committee of the House, consisting of Hon. Lewis F. Watson, of Pennsylvania; Hon. Erastus D. Turner, of Kansas; Hon. Joseph M. Carey, of Wyoming, and Hon. John Quinn, of New York. The Law Committee of the Pennsylvania Forestry Association has issued a timely circular calling upon its members to write to any of the representatives on this Congressional sub-committee with whom they may be acquainted, and present such facts and arguments as may be at their command in favor of the passage of the Dunnell

bill. This is good counsel, and we trust that every one who reads this paragraph will promptly act upon it. Some of the bills which will come before this sub-committee are framed for the purpose of facilitating the destruction of the national forests, and they will not lack interested advocates; it is the part of public spirit to make use of every legitimate influence to oppose these pernicious measures and to hasten action by Congress for preserving and maintaining the remnants of the forest on the national domain.

The Parterre, Fontainebleau.

No royal residence in France is more famous than Fontainebleau, partly because of the palace and the historical associations that cluster round it, and partly because of the beautiful neighboring forest, which, for ages, was the favorite hunting-ground of the court. There is no record of the foundation of the palace, but it was already ancient when Saint Louis, in the thirteenth century, added a tower, which was the only portion suffered to remain amid the reconstructions of François I. Peculiar interest attaches to these reconstructions, for, in order that they might be fittingly completed, the King summoned a number of celebrated artists from Italy and thus potently influenced the development of the art of the Renaissance in France. Henry IV. also added to the palace, and he doubled the size of the grounds, which, in the reign of Louis XIV., were radically remodeled by Le Nôtre. Between his day and ours there have been many alterations both within and without the palace, but the general aspect of the place still largely represents the ideals of the sixteenth and seventeenth centuries.

The gardens are divided into three portions—the Parterre, or garden proper; the English Garden, laid out in the "natural style" and bordered by a lake; and the private Jardin du Roi or Orangery. Our picture shows the Parterre, which is interesting as an example of modern taste in planting applied to an ancient design. Here we have not the so-called "French parterre," which, as recently described in these columns, consists of long beds thickly planted with masses of hardy flowers that are arranged with a care for form and color contrasts, but then allowed to grow in natural luxuriance. We have, instead, a succession of formal beds, such as are very familiar in America, but disposed in a more appropriate way than is often the case with us. From the regularity of all the lines of the design these beds do not seem too stiff and mechanical; and in a general view they do not make inharmonious spots, but blend into long strips of color which effectively relieve without disturbing the reposefulness of the wide lawns. In the picture we seem to read traces of the fact that larger beds, now turfed over, formerly occupied the centre of these lawns; and we feel sure it was well to do away with them.

Of course in our climate such a wide space so simply treated and quite devoid of shade would not be a very agreeable place of promenade in summer, while the grass would often be so burnt as to injure beauty in a distant view. But in the grayer, damper, cooler climate of northern Europe these objections do not hold, and the broad open Parterre is a welcome contrast to the informal English garden and to the adjacent park, the trees of which show in the background of our illustration. The main point we wish to emphasize is, however, that the formal flower beds which are so hideous and disturbing when introduced into a "natural" arrangement, may be entirely pleasing in a formal one. The fact is as true if, instead of a garden so extensive as this at Fontainebleau, we have one so small that even in our climate its openness would be no fault and its grass could easily be kept well watered. Lovers of such brilliant beds could use them to produce beauty instead of discord if they were willing to exchange the curving paths and carelessly grouped shrubs of their little grounds or front yards for straight paths and symmetrically arranged plantations.

Methods of Botanical Study.

Few persons will take exception to the argument made in your columns in advocacy of botany as a study for the young. But there are different methods of study, and since the "laboratory method" has been criticised it may be well to outline the plan adopted by many successful teachers of the science.

The "laboratory men" place abundant materials within the reach of students, and with a few hints and suitable apparatus require them to proceed to make discoveries for themselves. They first observe, handle, dissect, compare and study the specimens, and after this they begin to make some use of books. The "laboratory" method includes the study of gross anatomy of plants with the unaided eye or with a simple microscope, as well as plant physiology, where assistance is received from compound microscopes and other apparatus.

In the old-fashioned way the student was taught, or learned from books mainly, a large number of facts, names, systems of classification, etc. This plan is still extensively adopted, as we may infer from the following, taken from the opening paragraph of Wood's "Botanist and Florist," recently revised: "The proper season for the commencement of the study of botany in schools is late in winter, at the opening of the first session after New Year's. The class will thus be prepared beforehand, by a degree of acquaintance with first principles, for the analysis of the earliest spring-flowers." The plan above followed is dull work.

The old method places the pupils in front of a lecturer, who pours information into them, or questions them concerning lessons learned from a book. In the old method the students witness the play; in the new they begin at once to be the actors. To become a good botanist one must depend mainly on his own exertions, and become a self-made man. This depends little on the information imparted by the teacher, but largely on what the teacher induces his pupils to do for themselves. In the old way the pupil gains knowledge mainly; in the new, besides knowledge, he acquires method, confidence, power and enthusiasm.

The science of botany within thirty years has broadened to an astonishing extent. Now we have all that was ever of value to engage our attention in botany, and five times as much more. We still cling to systematic botany as essential, but cannot get along without the plant structure and physiology and the lower forms of plants which the microscope has revealed. This large expansion of the field has led to changes in methods, and we believe to improved methods of study.

The following, from President Eliot's last annual report to the Board of Overseers of Harvard University, is in point:

"During recent years every college teacher has been forced to answer anew the personal questions, what can I best teach, and how shall I teach it? Every man has really been obliged to take up new subjects and to treat them in new methods. There is not a single member of the faculty who is to-day teaching what he taught fifteen years ago as he then taught it. . . . Each teacher has had to recast his own work, each department repeatedly to modify and extend its series of courses."

The laboratory method claims to include a study of plants in the field, forest, prairie and ravine; their morphology, the great variety of ways in which pollen is carried from anther to stigma, the contrivances for keeping unwelcome guests from flowers, where they can be of no use to the plants, the plans by which some plants entice, entrap and feed on insects, the motions of plants, the climbing of roots, leaves, tendrils, the ways in which nature sows, distributes and plants seeds, and many other things not here mentioned.

Dr. Goodale, in "Guides to Science Teaching," says: "The pupil must earn his facts; they are to be placed within his reach, but not in his hands. The technical terms are not thrust upon the student; they are introduced only as they are needed."

I cannot refrain from quoting the following from Dr. Farlow. It is found in *Popular Science Monthly* for March, 1886:

"The position of the instructor is not an easy one. He is under constant retraint, as he must not tell the student, but must, if possible, make the student tell him, the structure of what lies before him. He is in the position of a boxing master who might easily floor his pupil by a single blow, but who must, by the exertion of great prudence and skill, contrive to let the pupil hit him. By a judicious series of questions, suggestions of possibilities or alternatives, the student may be kept in the right track and yet do all the work of advancing toward the truth himself.

"The most serious obstacle, it seems to me, is not so much that boys are not taught biology at school, as that they are not taught to observe, but are, on the other hand, taught to memorize text books, and to regard education as the acquiring of facts in the most rapid and easiest way.

"Patting one on the back and saying, 'Don't you see this?' and 'Don't you see that?' does not tend to produce a very robust mental development."

In the new botany, for which we are speaking a good word, we set pupils to studying plants before books. Before the first lesson each pupil is furnished or told where to procure some specimen for study. If it is winter, and flowers or growing plants cannot be had, give each a branch of a tree or shrub, which may be two feet long. The examination of these is

made during the usual time for preparing lessons, and not while the class is before the teacher. For the first recitation each is to tell what he has discovered. The specimens are not in sight during the recitation. In learning the lesson, books are not used; for if they are used, no books will contain a quarter of what the pupil may see for himself. If there is time, each member of the class is allowed a chance to mention anything not named by any of the rest. The pupils are not told what they can see for themselves. An effort is made to keep them working after something which they have not yet discovered. If two members disagree on any point, on the next day, after further study, they are requested to bring in all the proofs they can to sustain their different conclusions. Give other specimens for the next lesson, keep reviewing, and generalize as details and facts accumulate.

I like to give two species for a careful comparison. For example, naked or growing branches of Elms, Maples, Ashes, Oaks, Box-elders, Beeches, Poplars, Willows, Walnuts, Butternuts, Hawthorns, Cherries, Evergreens, and, in fact, any of our native or exotic trees and shrubs. Discoveries, very unexpected, are almost sure to reward a patient study of these objects. The teacher must not think this time wasted. No real progress can be made till the pupils begin to learn to see, and to learn to see they must keep trying to form the habit from the first, and to form the habit they should make the study of specimens the main thing, as they cannot acquire the habit by the study of books.

These hints could be much extended. After a few weeks, reviews may be made in connection with chapters in some book. I make it a rule to give pupils specimens for study and comparison regarding every chapter in Gray's Structural Botany, before the book lesson is studied. I place no stress on making these investigations in the order in which the chapters of a text book are arranged.

Free use is made of our botanic-garden, the crops in the vegetable-garden, fields and experiment station, and the thickets along the river. Special topics are often assigned, in which each student has to go many times to observe and record observations on his growing plant. I often go with them for this purpose. Illustrations by drawing are a prominent feature of the course from the very beginning.

Agricultural College, Mich. *W. J. Beal.*

Exotic Palms in Florida.

OUR last great freeze came on Monday, March 17th, just forty-six years ahead of the time fixed by our weather prophets, and it affords a valuable, though most unwelcome, opportunity of testing the hardiness of our choice exotics.

My thermometer here, in latitude twenty-eight degrees forty minutes, registered a minimum of twenty-one degrees; my neighbor's, twenty-three degrees, in a more sheltered place, and other observers in the vicinity report all the way from nineteen to twenty-five degrees, the last temperature being where a cloud of smoke from burning woods had settled during the night. Young Orange-trees are mostly killed to the ground—many thousands of them, both in grove and nursery—and old trees lose all, or nearly all, their leaves. I know of a single instance where a tree ten inches in diameter is killed to the ground; but, as a rule, the trunks and branches of old trees are uninjured.

Oleanders lose all their leaves, and, perhaps, the smaller branches. A good many young Peach-trees and Rose-bushes are killed to the ground, but the majority escape with moderate injury. Half hardy shrubs, like Cattley Guavas, are often cut back half way; common Guavas, *Eugenia uniflora* (Cayenne Cherry or Pitanga), *E. Jambos* (the Rose Apple) and *E. Ugni* (the Chilian Guava) are killed quite to the ground. Soap-trees (*Sapindus Saponaria*) lose their leaves only; but exotic Tecomas (*T. stans, T. Capense,* etc.), as well as Rose Geraniums, Hibiscuses and other common ornamental plants, will have to start anew from the level of the ground. The Tea Olive is untouched, and the common Jessamines (*J. revolutum, J. humile,* etc.) are a little cut back. *Araucaria excelsa* preserves its main stem, *A. Cunninghami* had to be cut off a foot from the ground, and *A. Cooki* was killed to the ground; both the latter had the protection of small lath-screens.

These instances show the exceptional severity of the weather, and it is gratifying to note what a large number of fine Palms escape serious injury amid the general destruction. Of course our native Palms are unhurt. Cabbage and Dwarf and Saw Palmettos, and an apparently undescribed species of Sabal, which replaces the Dwarf Palmetto (*S. Adansoni*) in dry scrub land of the Lake Region, are frost proof, as is also our Needle Palmetto (*R. hystrix*).

The exotic Palms tabulated below as "Hardy" show no injury, or only a trace of frost bite. The "Half-hardy" lose from one-fourth to three-fourths of their foliage. Those of the third class were quite defoliated, and in some cases may, perhaps, be dead, though very few seem to have lost the central bud. In some cases the same name will appear under two headings; this shows that plants in different situations behaved differently. None of the species tabulated had any protection.

Hardy Palms.—*Cocos Alphonsi? C. australis, C. australis argentea, C. Blumenavia, C. Bonneti* (two varieties), *C. campestris, C. coronata, C. Gærtneri, C. mamillaris, C. Normanbyana, C. petræa, C. Romanzoffiana, C. speciosa, C. Yatai, C. sp.* (very glaucous, from Entre Rios); *Phœnix Canariensis, P. dactylifera, P. Leonensis, P. Natalensis,* No. 1; *P. Sahariensis picta nigra, P. Siamensis* (two varieties), *P. tenuis, Sabal dealbata, S. flabelliformis? S. Ghiesbreghtii, S. humilis, S. Mauritiæformis, S. Mexicana, S. Mocini, S. speciosa, S. umbraculifera; Chamærops Indica,* var. *nigra, C. humilis* (in variety), *C. excelsa, Erythea armata* (*glauca*), *E. edulis; Jubæa spectabilis; Washingtonia robusta.*

Half-hardy Palms.—*Cocos botryophora, C. Datel, C. Guacuyule, C. Mikaniana; Phœnix acaulis dactylifera, P. farinifera, P. Leonensis, P. paludosa, P. rupicola; Sabal glaucescens, S. longifolia, S. princeps; Brahea dulcis; Livistona* (*Corypha*) *australis; Washingtonia filifera.*

Palms Which can Endure but Little Frost.—*Cocos capitata flexuosa* (this may be *Syagrus cocoides*), *C. Mikaniana; Phœnix cycadifolia, P. dactylifera* (from Lower California); *P. dumosa, P. Farinifera, P. glaucescens, P. humilis, P. Natalensis,* No. 2; *P. paludosa, P. pumila, P. reclinata, P. rupicola, P. Sahariensis picta nigra, P. sylvestris? P. tomentosa, P. Zanzibarensis; Acrocomia Totai* (unhurt at twenty-six degrees); *Phopalostylis* (*Areca*) *sapida; Livistona Sinensis* (*Latania Borbonica*); *Rhapis flabelliformis.*

None of the Palms here mentioned are injured by cold weather short of freezing, while a temperature of forty degrees, long continued, will kill many strictly tropical Palms.

The behavior of some Palms planted in the forest, having abundant shade and moisture, is interesting. An Orange-tree in such a situation lost every leaf like those fully exposed. So did *Areca sapida,* which endures light frosts, while *Raphia vinifera* was only partly cut back and *Elæis Guineensis* was untouched; *Arenga saccharifera* retains half its leaves; *Latania Loddigesii* and *L. Commersoni* (*rubra vera*), *Glaziova insignis* and *Phœnix sylvestris? P. cycadifolia* and *P. paludosa* are all unhurt. A Dypsis from Moritius loses but one tender leaf. *Caryota sobolifera* endured previous frosts and is now cut back, but a thrifty sucker from its base seems ready to replace it if necessary. *Seaforthia elegans* and four species of Chamædorea and a small *Diplothemium candescens* lose every leaf, but are apparently alive; one *Geonoma elegans* is untouched, while others around it lose all their leaves, a small *Hyophorbe Verschaffelti,* usually tender, by some chance escapes altogether, while several plants of *Oreodoxa regia,* hitherto unhurt, lose every leaf.

A number of Orchids and small Tree Ferns were "naturalized" in the forest and endured the freeze fairly well without any protection except that of the forest itself.

Of those growing on trees, *Lælia anceps, L. autumnalis* and *L. majalis, Dendrobium nobile* and *Epidendrum cinnabarinum* are all unhurt, *Lælia purpurata* and *L. harpophylla* are somewhat nipped, and *Acropera Loddigesii, Chysis aurea, Lycaste sp.* and *Cœlia Bauerana* seem to be killed.

Of those treated as terrestrial and planted in leaf mould on the bank of a small stream, *Cypripedium insigne, C. barbatum* and *Dendrobium nobile* are unhurt. *Phajus maculatus, P. grandiflorus* and *Cœlogyne cristata* lose a portion of their leaves. *Sobralia macrantha* loses most but not all of its stalks and *Peristeria elata* (the "Flor del Espirito Santo") loses all its leaves. In the preliminary frost of March 3d, when the mercury reached twenty-six degrees, the Peristeria was untouched, though fronds of native Ferns were frozen and killed where they actually touched the leaves of this Orchid. As the thermometer showed twenty-one degrees during this last cold weather, the prospect of permanently naturalizing some choice Orchids in our woods is very encouraging.

Most of my Tree Ferns in similar situations were more or less hurt. Many of them had been recently planted out and the fronds grown under glass might be expected to be more tender than those produced out-of-doors. This proved to be the case, as the youngest fronds were the ones untouched with *Alsophila horrida* and *A. australis, Cibotium glaucum* and *C. regale* and *Dicksonia antarctica.*

Oviedo, Orange County, Fla. *Theodore L. Mead.*

New or Little Known Plants.

Lycoris squamigera.*

THE plant which has been known to cultivators for several years, under the name of *Amaryllis Hallii*, of which a figure is now given on page 177, was brought originally from China by Dr. George R. Hall, of Bristol, Rhode Island, and has been distributed by the Messrs. Hovey, the Boston seedsmen. It appears to be the same as a rather rare Japanese species of Lycoris which was collected by the distinguished botanist, Maximowicz, of St. Petersburg, on the beach near Oyo, in the island of Kiusiu, and was first described by him. It was previously known to Siebold, however, as is shown by his herbarium, and a good figure of it is found under the name of *Natsu-dzuisen* in the illustrated Japanese work, "So-Mokou-Zoussetz" (vol. v., *t.* 59), by the native botanist Yokoussai. Dr. Hall had it in cultivation in his garden at Shanghai before 1860, and he states that it is often planted by the Chinese in their cemeteries. It may therefore be the same plant that is referred to by Mr. Baker as found in grave-yards at Ningpo and which he thinks will probably prove distinct. The present plant, however, accords very well with the descriptions of *L. squamigera*.

In appearance it strongly resembles the true Amaryllis (*A. Belladonna*). The bulb is large and globose, sending up in spring half a dozen bright green leaves, a foot and a half long by an inch broad. These leaves die down in late summer and are succeeded by the flower-scapes, which are nearly three feet high, stout and solid, bearing an umbel of four to seven fragrant flowers within two large bracts. The flowers, on pedicels nearly an inch long, are three or four inches long above the ovary, somewhat decurved, of a uniform light rose color shaded with a peculiar gray. The curving segments are much narrowed downward and unite to form a rather narrow tube nearly an inch long, in the throat of which, above the insertion of the stamens, is a row of short truncate scales. These scales are peculiar to this species and give to it its name. The very slender filaments and style are declined to one side and about as long as the petals.

The plant is of easy cultivation and proves to be perfectly hardy in our New England climate, in this respect differing from all others of its near allies so far as known, though there would seem to be no reason why the other three or four species of the genus, which are also natives of Japan and China, should not be equally hardy.

The genus Lycoris is closely related to Amaryllis, Hippeastrum and Crinum, all of which have flowers very much alike in general appearance. Hippeastrum, several species of which are cultivated under the name of Amaryllis, differs from Lycoris in its hollow stems and in its flattened instead of swollen black seeds. Its species all belong to the warmer parts of the American continent. The true Amaryllis belongs to South Africa, and, like Crinum, has large, round, green and fleshy seeds, and the fruit never opens by valves as in Lycoris and Hippeastrum. *S. W.*

Cultural Department.

The Comparative Liability of Trees to Disease.

ONE of the common questions asked by those intending to plant trees or shrubs, either for ornament or utility, is—Which kinds are least liable to disease? The same question is often considered by owners of large estates, railroad corporations, park commissioners or village improvement societies having for their object the obtaining of shade or the pleasing effect of foliage and flowers with the least possible expenditure of after-care and trouble. As generally understood the term "disease" includes the ravages caused by insects as well as those attributed to fungi, and to any other destructive effects of known or unknown origin, except such as are recognized to be the work of rodents or other vertebrate animals.

Any attempt to answer such questions must always be unsatisfactory because subject to many qualifications; and an answer applicable to one region may prove very misleading when applied elsewhere. In catalogues and works on horticulture it is not unusual to find particular plants recommended as being free from certain diseases. Such observations may be approximately true, or they may merely represent the local experience of the observer biased by peculiar geographical, climatic or other conditions. An instance of this kind is afforded by the large English Gooseberry (varieties of *Ribes Uva-crispa*). When grown in this country the general experience is that the fruit is very liable to be destroyed by mildew, while occasionally gardens are found in which no injury of this nature is detected. Experiences of this kind are common with many plants, and when we say that particular species or varieties are not subject to disfigurement or destruction by disease, it must be remembered that all plants are liable to epidemics of which we may not now have any idea. Such an epidemic may be brought about either by introduction from abroad or by circumstances which suddenly become favorable to its rapid increase. The destruction or introduction of particular kinds of birds is known to have much to do with the increase or decrease of certain destructive insects; and climatic conditions and the vigor of the host-plants are important factors regulating the abundance or scarcity of injurious fungi. It often happens that the disease of a tree may be directly traced to some previous mechanical injury or lack of nourishment which first gave the parasites a foothold.

Many insects devour the foliage of a great variety of trees and other plants. The well known Fall Web-worm (*Hyphantria cunea*) and the polyphagous locusts are examples. Pests which feed so indiscriminately are more likely to be permanently troublesome than those which are known as monophagous, and which confine their attack to one species of plant, or at most to a particular genus. However, all such destroyers are occasionally subject to violent natural checks, and with fungi, a season of much injury may be followed by one or more of comparative freedom from attack. The following brief review of some of the hardy trees merely refers to the north-eastern portion of the United States and Canada.

It will be seen that very few are to be classed as in any degree safe from noxious diseases. It happens that the Magnolias, the first group of trees as classified in our botanies, is also the most remarkably free from injuries by any disfiguring diseases and particularly from attacks by insects. This seems to be true both of our native species which grow from Massachusetts to Florida and also of those exotic kinds in our gardens. Several species of insects are known to feed solely or occasionally on these trees and numerous fungi are recorded; but it is very rarely that the foliage of a Magnolia is noticeably affected. Thus it would seem that the Magnolias wherever hardy are among the best trees to select for ornamental planting where little after care is to be given. Compared with the Magnolias, the Tulip-tree has more insect-enemies. Chief among these is a scale insect reported as sometimes very injurious in the Western States, an aphis which occasionally hurts the appearance of the foliage, and a minute two-winged fly, recently noticed in these pages (vol. 2, p. 604) as disfiguring the leaves by causing brown spots in them. Yet the Tulip-tree is usually counted among those least liable to disease.

The liability of the Lindens to serious attacks by insects is too well known in some parts of New England to need referring to here. The Horse-Chestnut and the Buckeyes, and more particularly the Maples, have a long list of active enemies, but are usually much less liable to serious disfigurement than the Lindens and therefore they are better fitted to be planted as street shade trees and in parks. Fungi sometimes hurt the leaves, especially those of the Horse-Chestnut.

Two Asiatic trees, the Ailanthus and Phellodendron, have so far generally shown very slight liability to serious diseases in this country. Of the hardy trees belonging to the Pea Family, the Locust (*Robinia Pseudacacia*) seems the worst attacked. It is well known that the trunks and branches become sadly diseased by borers. On the other hand, the Honey-Locusts (Gleditschia) are, as a rule, remarkably free from unsightly disfigurement of foliage or disease of stems. The Kentucky Coffee-tree and the beautiful Yellow-wood (*Cladrastis lutea*) are even less subject to injury than the Honey Locust, and the Yellow-wood especially harbors very few insects. The Japanese Sophora does not appear to be quite so exempt.

The Wild Cherries, the Mountain Ashes and Hawthorns and other trees of the Rose Family are more or less subject to many of the same insects and fungi which infest the fruit trees of our gardens. The Wild Cherries in particular are preferred by some of the most obnoxious insects.

The Flowering Dogwood (*Cornus florida*) has the merit of being distasteful seemingly to many destructive insects, so that it usually retains unblemished foliage. Equally free from disease is the beautiful Tupelo (*Nyssa sylvatica*); but both it and

* Lycoris squamigera, Maximowicz in Engler's *Bot. Jahrbücher*, vi. 79 (1885); Baker, Amaryllidaceæ, 40.

Fig. 32.—Lycoris squamigera.—See page 176.

the Dogwood are the hosts of many species of fungi. Ash-trees serve as food for a number of common insects, but in isolated situations they appear to be less liable to serious destruction of foliage than Elms. Among the latter there seems to be but little difference in the value of the different species in regard to freedom from injury. The American species appear to have slightly the advantage. Little of a damaging nature is recorded against the Sassafras and the Catalpas. The

handsome leaves of the latter are sometimes subject to disfiguring spots of as yet doubtful origin.

The Buttonwood-trees (*Platanus occidentalis*) in New England have, in recent years, obtained the reputation of having degenerated and become more liable to disease. For some reason, not well accounted for, the terminal shoots are often killed and the trees assume a tufted appearance. But few insects are known to attack the tree. The Walnuts and Hickories are among those trees which usually have comparatively well preserved foliage, even when that of many other kinds is destroyed. The Black Walnut seems especially exempt from serious insect attacks.

That the trees which are preyed upon by the largest number of species of insects and other parasites are not always the first to show disastrous effects, is well illustrated in the case of the Oaks. In Europe alone there have been recorded about 600 species of insects which live upon these noble trees, and a proportionately large number are probably to be found in this country; and Professor Farlow has stated* that "the list of fungi which grow on Oaks in the United States includes between five and six hundred species." Of course a large proportion of these parasites also live upon other kinds of plants, while many others are only found upon particular species of Oak. Such figures naturally cause surprise that these trees are able to support such a host of ravagers and yet maintain so fine an appearance as they usually do. On the whole, there seems to be little difference in the value of the various species when considered with regard to immunity from serious diseases; and, as no trees can ever fill their place, the Oaks must continue to be planted for ornament as well as timber.

Loudon states that the leaves of Birches are rarely subject to the attack of insects. Nevertheless there are about 300 species of insects known to live on these trees in Europe, and some of them are of quite a dangerous character. It is true, however, in New England, that the Birches seldom suffer severely. Occasionally they may be attacked by such general-feeding insects as the Fall Web-worm. In the vicinity of Boston, a few trees have been defoliated by one or two species of monophagous Saw-fly larvæ, and these, under favoring conditions, may sometimes become destructively abundant.

The Poplars (*Populus alba, P. monilifera* and *P. balsamifera*), so commonly planted in some of our cities, have lately acquired, especially in the region about Washington, a bad reputation on account of the destruction of the foliage by the Fall Web-worm and other insects; and dead trunks and limbs too often show the ravages of borers. The Willows are attacked by many of the same insects, and are, as a rule, hardly less subject to severe injury than the Poplars.

Among the conifers we find that the Pines and Spruces of our forests are, at irregular intervals, subject to extraordinary injury and destruction by borers and foliage-devouring larvæ. Fortunately there is less liability to such disasters in ornamental planting, where particular species of trees are usually few or comparatively isolated and insect-eating birds are more abundant than in the woods. Yet in isolated situations the tips of the branches of most of the Pines are often sadly injured by boring larvæ, and fungi are sometimes quite destructive. During the past season an almost universal disease, of uncertain origin, caused the outer ends of the leaves of the White Pines to become brown. The greatest deformity of the Spruces in cultivation is caused by a Hemipterous insect (Chermes), which produces large, cone-like swellings on the ends of the branches. The Colorado Spruce (*Picea pungens*) has so far seemed to escape this disease in New England. It does not infest the native and foreign species of Firs, which, when young and in vigorous health, rarely allow disease of any kind to become manifest.

The Junipers are sometimes subject to several hurtful fungi, among them the well known "Cedar Apples." South of New York the Red Cedar and the Arbor Vitæ are sometimes very much injured by the Bag-worm; but north of Massachusetts the Arbor Vitæ is usually one of the trees most free from disfigurement. In recent years the foliage of the Larches over a wide extent of country has been annually largely destroyed by the larvæ of a Saw-fly (*Nematus Erichsonii*), which is supposed to have been introduced from Europe, and which is the worst known enemy of this beautiful tree. The Japanese Larch (*Larix leptolepis*) at the Arnold Arboretum has not yet been touched by this Saw-fly, but the data are not sufficient to warrant the statement that the tree will not be attacked. The Hemlock is one of the most beautiful trees for ornamental planting, and it has few enemies. Sometimes the presence of Red Mites (*Tetranychus*) gives a portion of the leaves a pale or dusty appearance, but vigorous, well branched, isolated trees are rarely otherwise injured. Our Cypress (*Taxodium distichum*) has no serious enemies recorded against it, and the Gingko has so far given a promise of being one of the kinds best suited to those who want trees which do not require to be diligently guarded against destroying foes.

Arnold Arboretum. *J. G. Jack.*

* Vice-President's Address, Section F, *Proc. A. A. A. S.*, vol. XXXVI., 1887.

Grapes for Family Use.

I HAVE just been asked to name ten or twelve of the best varieties of Grapes for family use to plant in the vicinity of Plainfield, New Jersey. The inquiry comes from a man who has lately moved into the country, but who still retains his business in New York and goes into the city every day. As this class increases every year a reply to the inquiry may be helpful to some of the readers of GARDEN AND FOREST.

It is difficult to give a general answer to such a question, not only because individual preferences vary as to the quality of the different Grapes, but because differences of soil and of location and of the adaptability of varieties to different conditions make an answer which is correct for one place almost worthless for another a few miles away. However, as the soil in the district mentioned is a light sandy loam I will frame my answer accordingly, although in my own heavier clay soil in Essex County I would still name the varieties which I give below.

For early black Grapes I would name, in the order of ripening, Moore's Early, Cottage, Worden and Concord. These are all hardy, vigorous growers and likely to succeed anywhere in the state. The first named I have not found quite as productive as the others, but its earliness compensates for any deficiency in this respect. The quality is very much like that of the Concord, the parent of all the others, while the Worden is the largest and best of them. For earlier kinds than the above I might name Champion and Eaton, but the former is too poor in quality, and the latter has not yet established its true position as a grape for table use.

For later black Grapes the following kinds among Rogers' hybrids are named in the order of the estimation in which I hold them: Wilder, Barry, Herbert, Aminia and Merrimac. These are all first-class in size, thick skinned, meaty, and of richer quality than the preceding and better keepers.

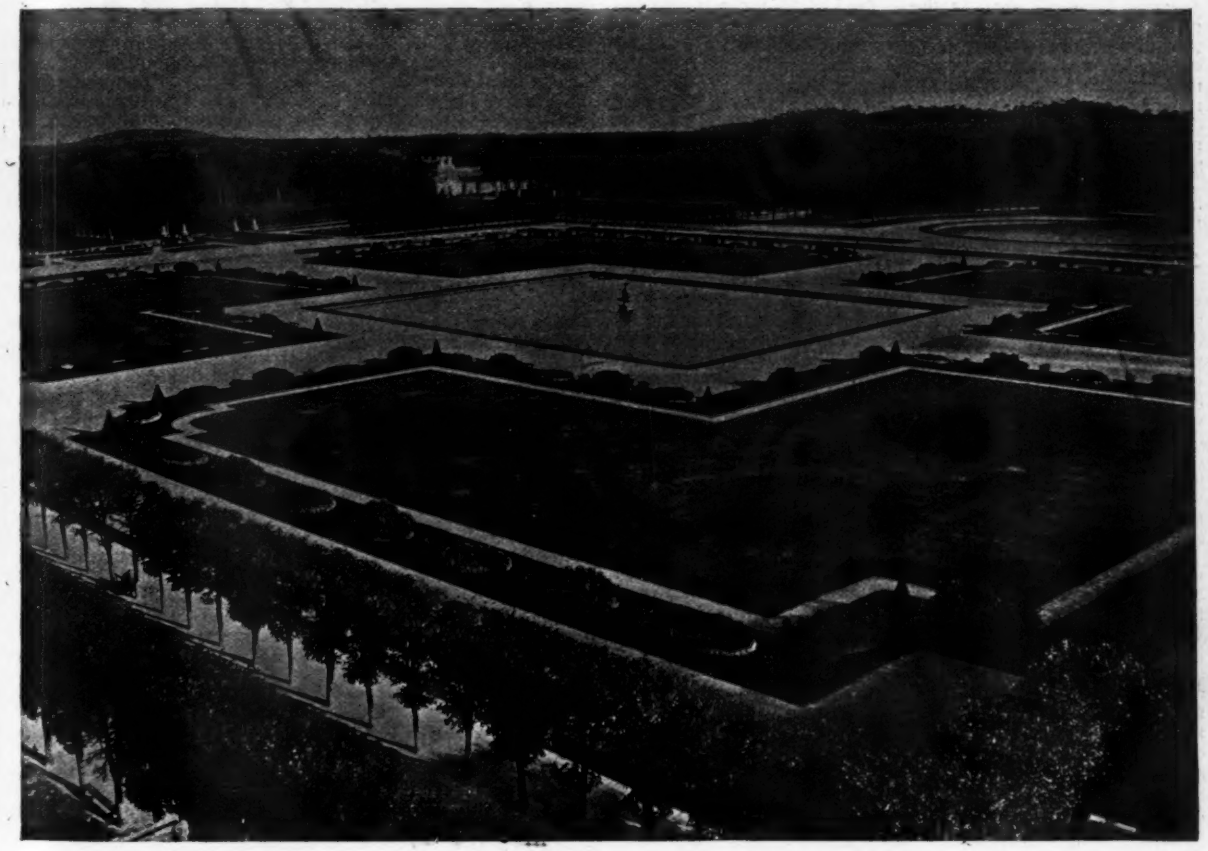
For red Grapes I name Brighton, Delaware, Lindley (Rogers' 9), Agawam (Rogers' 15) and Berckmans. Of these, Delaware and Berckmans are among Grapes what the Seckel and Dana's Hovey are among Pears, small and not vigorous growers, but of first quality. The strongest grower is Agawam, a thick skinned, aromatic, musky-flavored grape, much admired by some and equally disliked by others. It is liable to set poorly, and the Lindley, equal to any in quality, has the same defect. The Brighton never fails to satisfy the most exacting taste, even if not fully ripe.

For white Grapes I name Lady and Martha first, because of their earliness. The latter is the more vigorous grower, while the former has the larger berry and is better in quality, but it wastes very soon after ripening, often before, and the clusters of both are small. Following these comes the Niagara, a larger and far better Grape in every respect; in fact, in my experience, it is the only white Grape I have that is worth the ground it occupies. Pocklington, so highly praised in some sections, is with me a failure in every way. Empire State and Duchess, while of better quality than Niagara, have berries only half as large and are so uncertain that I can only recommend them as an experiment. Lady Washington makes a fine cluster, but it is too late to be depended on in this latitude. Moore's Diamond and Hayes are as yet new—that is, they have not been cultivated long enough to make their good and bad qualities apparent.

I might mention several more in all classes that have some desirable qualities, but the list is large enough to select a dozen varieties from. Still it represents an individual opinion merely and a consensus of opinions gathered from a larger area may be more satisfactory. The New Jersey State Agricultural Society at its annual meeting six years ago voted on a selection of the best six varieties of Grapes. Ten red Grapes were named and eight each of white and black. The four of each color receiving the highest vote were, in the order named: Red: Brighton, Jefferson, Delaware and Wyoming Red; white: Pocklington, Duchess, Lady Washington and Lady; black: Concord, Worden, Moore's Early and Wilder. This vote was based on their value for general use, which included their value as market Grapes. Some kinds named were new and the desire to sell the vines probably influenced some votes. Some members, too, had no experience with all the kinds

named. At that time Jefferson, Pocklington and Duchess had a fictitious reputation, gained by much advertising. I myself considered the Jefferson a Grape of great promise. Now I would like to change every vine I have. The true value of a really good Grape is not established in three or four years. The Worden, for instance, has been three times as long in obtaining its present standing. Four years later the same Society, balloting for the three best Grapes for general use, one of each color, decided in favor of the Brighton, red; Worden, black; and Niagara, white; and few Grape-growers in the state would to-day make any alteration in the list. The amateur who demands grapes of the highest quality, though fewer of them, and is willing to take extra care to obtain them, might need another list embracing the best of those named above and a few not mentioned here; but for the great majority of the people the list will give entire satisfaction and all the varieties can be grown with ordinary care.

Montclair, N. J. *E. Williams.*



The Parterre, Fontainebleau.—See page 174.

Stapelias.

IN the March number of *Hooker's Icones Plantarum*, Mr. N. E. Brown, of the Kew Herbarium, figures and describes twenty-nine species of Stapelia and allied genera; he also adds in a supplemental chapter some interesting notes on Stapelias in general, and those collected by Sir Henry Barkly when Governor of the Cape of Good Hope in particular. The plants figured in the *Icones* are not, as a rule, of any horticultural interest, but amongst these Stapelias are some which are already known in cultivation, and others which, in our opinion, deserve to become generally known and grown.

Stapelias, however, receive next to no notice from horticulturists; indeed, one might safely say that the number of gardens in which they are grown and the number of gardeners who know anything about them might be counted on one's fingers. To most people this will look like conclusive evidence of the worthlessness, in a garden sense, of all Stapelias. This is true only to a certain extent. It would not be difficult to name many plants of undoubted beauty and fitness for the garden, which are, nevertheless, as unknown in horticulture as the Stapelias.

The objections urged against the admission of Stapelias into the garden are: (1) that most of them have flowers which smell disagreeably; (2) that they are, as a rule, dingy and unattractive in color; (3) that they are not easily kept in health in the garden. With regard to the first I am afraid that nothing can be said in palliation of the unpleasantness of the odor, except that it is not obtrusive, and people need not smell it unless they like. But both the first and second objections are of small account when weighed in the balance against what can be said in favor of these plants. Their flowers are large, they are often produced in abundance, rarely failing if the plants are in anything like health. In form the flowers are most remarkable, in structure they are full of interest for the botanist, whilst the colors, although quiet, are not wanting in attractiveness, being, as a rule, a mixture of yellow and purple-brown. They cannot be used in the making up of bouquets, nor would any but the eccentric think of wearing one in his button-hole. But there is, or should be, a place in the garden for the anomalous, the strange and the wonderful amongst plants as well as for the pretty, the gaudy and the fragrant. The Titanic Amorphophallus, which last year created so much excitement amongst horticulturists as well as botanists, is not a plant to grow "for cut-flower purposes." There are many Orchids, too, of even less beauty and interest than Stapelias, but which find a place in almost every collection. The horticulturist who failed to see anything to admire and long for in *S. gigantea*, with its huge, shaggy star a foot across, and colored yellow with brown blotches, must have a very narrow and unenviable taste for flowers. There are dozens of species of Stapelia with flowers as interesting if not quite so large as this giant of the genus.

The odor was designed by nature to serve the purpose of the plant, man's fastidious senses not being taken into account. Insects are needed to bring about fertilization in Stapelias and that it attracts them is evident enough even here, where flies visit them in large numbers to deposit their ova. Probably,

also, the putrid odor of the flowers is intended to protect the plants from animals, which, if it were not for the smell, might eat them. It is remarkable that whilst the native animals in Africa avoid Stapelias, the introduced sheep and goats eat them, and in those parts of the colony where these animals are most abundant the Stapelias have been almost exterminated. Apparently the "foreign" animals are not to be deceived by the smell. Something analogous to this is seen in the fruit of the Durian, the smell of which is detestable whilst the flavor is delightful.

Stapelias have long been cultivated at Kew and in a few other gardens in England. Mr. Brown himself has a good collection of them, and there are several amateurs who make Stapelias their specialty. In 1811 the Kew collection contained no less than forty-four species, the number of Orchids cultivated at that time being only thirty-seven. In 1868 about eighty species had been or were in cultivation in England. Between these two periods richly illustrated monographs and treatises on these plants and their allies were published by Masson, Jacquin, Haworth, etc. In the *Botanical Magazine* alone between thirty and forty species are figured, all from plants cultivated at Kew. At the present time close upon a hundred species are represented by living plants at Kew. Two of the most wonderful—namely, *Hoodia Barklyi* and *H. Bainii*—flowered here about ten years ago. This genus is, however, difficult to keep. Decabelone, Huernia, Duvalia and Boucerosia, all closely related to Stapelia, and all equally interesting, are in cultivation at Kew and elsewhere.

Mr. Brown's collection is accommodated in a small greenhouse attached to his dwelling, and his success in the management of these plants has been so marked, whilst the treatment he follows is so easy of imitation, that I quote what he says on the question of cultivation:

"One interesting feature connected with Stapelias is the vitality of their seeds and the rapidity with which they germinate. When sown in moist, sandy soil, and placed in a greenhouse heated in summer only by the sun's rays, the night temperature going down to sixty degrees Fahrenheit, or lower, they germinate in less than forty-eight hours. Most of them are comparatively hardy, and under shelter, if the soil is kept dry, will stand a succession of slight frosts of from one to three degrees Fahrenheit, and some will endure as much as eight degrees of frost without injury, if not continued for more than a few hours. I have many plants now living, which I have cultivated for sixteen or eighteen years, that almost every winter have been subjected to a slight amount of frost during severe weather."

Where available, I would recommend the following treatment as better even than that described by Mr. Brown: Summer temperature, minimum, sixty degrees, with exposure to all sunshine. Whilst growing these plants require as much water as ordinary pot plants; they thrive when planted in light sandy loam, well drained. In winter the temperature should not fall below forty-five degrees, and the atmosphere about the plants should be kept as dry as possible. They do not require any water at the roots from November until about the end of March. Should the plants rot at the base the decayed parts must be cut away and the stems must be laid upon sandy soil. *S. gigantea* may be grown in a moist stove all the year round. Seeds of Stapelias may be obtained from Continental nurserymen. Mr. Hanbury has a large collection of these plants in his garden at Mentone. Professor Todaro, in the Palermo Botanic Gardens, also grows a considerable number of them.

Kew. *W. Watson.*

Orchid Notes.

Lycaste aromatica.—This species may not possess sufficient merit to rank among the most handsome Lycastes. It is, nevertheless, a very desirable one, and worthy of the gardener's attention on account of its free habit and large fragrant flowers, which possess the additional recommendation of appearing in great numbers during the dull months of December and January.

It was first introduced from Mexico in 1824 by Lord Napier, and since that time has passed through the hands of botanists under the names of *Colax aromaticus* and *Maxillaria aromatica* until Dr. Lindley consigned it to the genus in which it now stands. From a structural point of view the flowers of Maxillaria and Lycaste resemble each other very much; hence in gardens many Lycastes are known as Maxillarias, and *vice versa*. One of the easiest means to distinguish these two genera is that Lycastes always have thin, plicate leaves, while Maxillarias are recognized by their stiff, flattish leaves, traversed by three to five strong nerves.

Lycaste aromatica has deep green, ovoid pseudo-bulbs, measuring from three to five inches long and becoming more or less angled with age. Three or four oblanceolate, plicate leaves, a foot or more in length, are borne on the summit of each pseudo-bulb, from the base of which spring the slender one-flowered scapes six to eight inches long, having at each node (there are usually four or five) a large dark brown spathaceous bract. As many as twenty flowers, each about three inches across, are often produced from one pseudo-bulb, and, owing to the olive-green color of the broadly ovate, acute sepals and the bright cadmium-yellow of the smaller erect petals, they present a very striking appearance to the surrounding plants. The lip is three-lobed and colored like the petals, with the addition of several dark red spots at the base and a deeper yellow raised callus on the disc. There is a variety known in gardens as Punctata, which may be readily distinguished by having (on the lower portion of the petals) several blood-red blotches, similar to those on the base of the lip.

This Lycaste may be grown either in pots or baskets in the usual mixture of fibrous peat and sphagnum. In winter the temperature may range from sixty to sixty-five degrees, Fahr., gradually rising to about ten degrees higher in the summer months. Growth begins in spring and continues until the end of autumn, when the pseudo-bulbs begin to ripen, after which they shed their leaves and produce their flower-scapes. Plenty of water may be given during the growing period, but, as the time of flowering approaches, less and less will suffice. When the blooms have all vanished, the plants require a rest of a month or two, during which time very little is necessary—indeed, only just sufficient to prevent the pseudo-bulbs from shriveling.

Odontoglossum triumphans.—From February until the end of April this is one of the most conspicuous species of the genus. It is usually called a handsome species, and deservedly so, on account of its large, showy flowers, which individually measure over three inches across. From eight to ten is the usual number, borne on an arching scape, two to three feet long. The oblong-acute sepals and the broader petals, with erose or irregularly-toothed margins, are golden yellow, the former having a few large chestnut-brown blotches, the latter being decorated with similar, but smaller and more numerous, blotches. The blade of the lip, which is ovate or cordate-acuminate, with denticulate margins, is folded at the tip, and has a large deep brown blotch on the anterior portion, bordered by a more or less narrow yellow margin, while the lower portion is creamy white, sometimes tinged with yellow, and furnished with a forked, elevated white crest, on each side of which are shorter teeth. The column is over an inch long, pale green at the base, passing into pure white upward, and having on each side of the anther a large, slightly toothed, brownish wing.

O. triumphans is indigenous to the mountains of Colombia, where it grows at an altitude of 5,000 to 10,000 feet above sea level. It was first discovered about 1842 by M. Linden, near Pamplona, and some years later by Warscewicz. The latter, however, thought it was *O. Hallii*, and sent it to Europe as such, and this caused confusion between the two species for some time.

Plants of this species should be grown in a cool house—that is, one the temperature of which in winter varies from forty-five to fifty-five degrees Fahrenheit, rising a few degrees more in the summer months. As much diffused light as possible should be given, and the atmosphere should always be kept moist by means of damping the floors and sides of the house. During growth plenty of water may be given, and when the bulbs are getting ripe as much air as possible should be given so as to assist in the process.

St. Albans. *John Weathers.*

Andromeda floribunda.—The mild winter has not brought this beautiful Evergreen into flower much before its usual time. It is just opening its first flowers now, March 25th, not much over a week ahead of last spring. There are so few good broad-leaved Evergreens that will thrive here, that this one is valuable on that account, aside from its great beauty. The small panicles of flower-buds are formed in the autumn, and are usually so numerous as to almost hide the leaves. In this condition they are very pretty, and it is not uncommon for passers-by in the winter to consider the shrub in full flower. A shady place protected by larger shrubs is suitable for this Andromeda, and I find a well drained, light soil to suit it well. In such a place it ripens its wood well, and this has a great deal to do with the question of hardiness.

Cercidiphyllum Japonicum.—I have marked this Japanese tree growing in many situations and find that it does the best in

deep, rich soil. The foliage when the tree is in ordinary situations is not over dense, and when on dryish ground it is quite thin. It is only when in deep soil that the great beauty of the tree is developed. It is then that the different colors of the foliage and leaf stalks are best displayed. The leaves are heart-shaped, dark green above and silvery green beneath, while the leaf stalks and veins are of a dark red. It has a well formed pyramidal habit. I am not aware that any trees have flowered as yet in this country. Seeds, however, can be imported which germinate readily, so that the slower way of layering and rooting cuttings will not be necessary.

Germantown, Pa. *Joseph Meehan.*

Foxgloves.—It is not generally known that *Digitalis purpurea* and *D. lutea* (*ambigua*) force well. By potting good plants in ten-inch pots during the autumn, and by keeping them in a frost-proof pit, well lighted and aired when the weather permits it, they grow a little all winter, and come nicely into bloom by the first of May. Along with these appear Canterbury Bells and *Spiræa palmata* if treated in the same way. Add to the above a few plants of *Astilbe Japonica* or *Deutzia gracilis* and a very charming group can be formed. For vases or ornamental jars Auriculas and *Viola cornuta* Perfection, can be used with good effect until the time comes for ordinary summer-blooming plants.

Japanese Anemones.—For entrance-steps, porch or piazza decoration few plants excel well-grown specimens of *Anemone Japonica*. Ours are grown in twelve-inch pots, started in a frame during March, which advances them sufficiently in this latitude to bloom toward the end of September. Further south this would be unnecessary. We place five to six strong crowns in each pot, in good loam. As soon as the flower-stems appear in August liquid manure is given. Abundance of water is essential throughout the season; just sufficient staking is done to get good specimens. The best varieties are the white Honorine Joubert and the hybrid Pink. *H.*

Wellesley, Mass.

Perpetual Carnations.—Carnations to flower in the open ground this summer should be planted early in this latitude—any time after the 10th of April if they have been growing in a cool place. Carnations are better without fire-heat at this season. It is important that the soil in which they are to be planted be rich in potash, and a liberal dressing of wood ashes is, perhaps, the best means of supplying this element. If the plants are ordinary spring-struck cuttings they should be planted about a foot apart each way; plants that have been wintered over in five-inch pots require more room, and, of course, give more flowers; yet, if the same amount of money is expended in small plants, the additional number should produce the same amount of bloom. The varieties of Carnations are so numerous, and so large a proportion of them are excellent, that it is hardly worth while to name a select list. Unfortunately there are but very few thoroughly hardy varieties of the class known as Border Carnations. Seedling plants will go through the first winter safely, as a rule; afterward, however, whether the plants are layered or stock is obtained by cuttings, the losses are heavy and the plants badly crippled. Unfortunately, we cannot grow the Clove Carnation here as they are grown in England, and where they are among the most satisfactory of garden plants.

Pearl River, N. Y. *John Thorpe.*

Correspondence.

An American Arboretum in Germany.

To the Editor of GARDEN AND FOREST:

Sir,—It may interest your readers to hear something of an Arboretum formed by a distinguished German horticulturist, Dr. G. Dieck, in northern Germany, on that great level plain which sinks gradually toward the North Sea, where the winters are rigorous and the summer climate is often marked by excessive droughts. It is a severe climate, of course, for delicate plants, but the more difficult it is to form a collection, the greater the honor attached to it. Plants which can support a climate like that of northern Germany have passed, so to speak, a severe examination; and can therefore be planted in regions of less rigorous climates without danger of their succumbing to the first exceptionally severe winter, as is often the case with plants propagated in a mild climate or in an exceedingly rich soil.

Dr. Dieck's Arboretum, situated not far from Miersberg, on the line from Halle and Leipsic, in the village of Zoeschen, is rich in trees and shrubs from America, and especially in those of the remote and still little explored regions of the north-west coast. Dr. Dieck, at a considerable sacrifice, sent recently several intelligent collectors into the northern part of Oregon, Washington and British Columbia to explore the rich Cascade Mountains and those of the Fraser River, and his Arboretum now contains a number of rare plants which would be looked for in vain in the richest gardens of the United States. The special merit of Dr. Dieck's methods is to have had seeds of trees, especially of conifers, of an extended north and south range gathered at the most northern or the most exposed station where the particular species grows, in order to make sure, if possible, that the seedlings would be able to resist the climate of the eastern states and of Europe.

Dr. Dieck explains in his Catalogue that all his plants are at the free disposition, gratuitously, if necessary, of botanists who may need them for scientific investigation; secondly, he offers them to botanical gardens and other scientific institutions, and also to private collections, if these have any scientific character; thirdly, they are put in commerce. To have an idea of the value of the plants Dr. Dieck has obtained from the Pacific coast, it is only necessary to examine the list of 120 species, mostly newly introduced, contained in the supplement of his Catalogue for September, 1889. I will add, in passing, that this list contains, also, all the varieties of Roses used in Turkey and Asia Minor in the manufacture of ottar of Roses, which Dr. Dieck has had collected in their native countries. But to return to the novelties from the Pacific coast contained in Dr. Dieck's Catalogue, where are found *Acer glabrum* in three varieties, *Alnus rhombifolia*, *Rhododendron albiflorum*, the beautiful Alpine Rose of the Cascades; *Menziesia glabella*, and *M. ferruginea*, *Celtis reticulata*, *Fendlera rupicola*, *Jamesia Americana*, *Fatsia horrida*, that beautiful Aralia of the Columbia River, which is hardy in our coldest climate; *Lonicera flavescens*, a new species from the Cascades, a new Opuntia from the Fraser River, *Pinus ponderosa scopulorum*, the dwarf Alpine form of the Yellow Pine, *Pachystigma myrsinites*, a pretty evergreen shrub from the cold region of the Columbia, the equal of the Japanese Euonymus; *Pentstemon Menziesii*, var. *Scouleri; Populus trichocarpa*, an elegant Poplar-tree; *Quercus agrifolia*, a semi-evergreen California species; *Rhus aromatica trilobata*, *Rosa Engelmanni*, which is probably a variety of *R. acicularis; Rubus ursinus*, *Sambucus arborescens*, a good and very beautiful species of vigorous growth, and not a variety of *S. racemosa*. There is a collection, too, of fourteen Willows from the mountains of the Pacific, which probably no one has cultivated before; on account of its beauty, *Salix tristis*, var. *pallida*, is worthy of mention, and so are *S. Barclayi*, *S. Hookeriana*, and the new *S. Flogeriana*, an ally of *S. pyrolæfolia* of Siberia, an Alpine species with stems spreading on the ground like a green sod over which the roller has just passed; *Spirea betulifolia* and *S. corymbosa* in dwarf Alpine forms; *Symphoricarpus Floyeri*, *S. acutus*, and two new found varieties, one of which, *S. pauciflorus*, makes a compact little Alpine shrub.

I suggest to all botanists or lovers of trees who happen to be in northern Europe to stop and see this Arboretum and its enthusiastic creator; they will find there much to interest and instruct them. Dr. Dieck, and this is in my eyes his principal merit, does not imitate a great number of commercial cultivators, who only devote themselves to plants which find ready sale. On the contrary, his passion is for difficult genera, often the "common things" of amateurs, which have only a purely scientific interest. For example, he has brought together 350 forms of Wild Roses, and the astonishing number of nearly 450 forms of Salix. To increase his Salictum he stops at nothing, and I permit myself in the interest of science to beg the botanists of the United States, who are in a position to procure rare or curious forms of Willows, to send them to Dr. Dieck, whose address is simply Arboretum, Zoeschen, near Miersberg, Germany. Cuttings and plants can be sent easily and cheaply by sample post. *H. Christ.*

Bale, Germany.

[Nearly all the plants mentioned as novelties by Dr. Christ have been cultivated for years in the United States. Some of them, like *Rhododendron albiflorum* and Pachystigma, are difficult to manage, and the right way to cultivate them successfully has not been discovered yet. The handsome Aralia of the north-west has refused, too, to remain alive for any length of time in gardens. There are still many North American plants to introduce into cultivation, and a few good ones, and the more people there are who make collections of our plants the better. We venture to suggest, however, that some knowledge of what American gardens contain would be useful information to

any one sending out expensive expeditions to collect American plants; and we must protest against the publication in a trade catalogue of new names of scientific appearance for plants which may or may not be undescribed. American plants, and especially those which are in cultivation, are weighed down by a hopeless load of synonyms, and now if this load is to be increased and plants are to be scattered over Europe under inadequately published names, American botanists may have some cause to regret Dr. Dieck's zeal and enthusiasm in increasing his Arboretum. —Ed.]

Common Names for Plants.

To the Editor of Garden and Forest:

Sir.—In your recent editorial entitled "Botany for Young People," there is one point that, in my judgment, might have received more consideration.

Any one who has paid attention to the so-called "common names" of plants must have been struck with the fact that in the majority of cases such names are not common at all, but are rather names that have been coined by botanists themselves, or names used by a greater or less number of flower-lovers to designate the plant in question. The fact cannot be ignored that a great many people do not accept these common names, but adopt instead local names of their own, names varying in different parts of the country, and expressing the native feeling of the locality toward each particular plant, rather than a common feeling of the whole area over which it is found. Thus there may be dozens of common names for each plant, and flower-lovers from different parts of the country may refer to a plant by very different names, and be unable to discover, except by much explanation, that they are speaking of the very same thing.

The whole subject of the popular or common names of plants is one of the greatest interest. The local name of the plant is apt to be, as I have pointed out, the expression of the feeling of the locality which the plant excites. Therefore it is obvious that dull and untrained observation will find in a plant many false points of resemblance and many qualities that have no existence, and deduce from these a local name that absolutely misrepresents its true nature. For example, the early settlers were naturally keen to discover likenesses between the strange plants of their new home and the familiar plants of the old home left behind. As a result, many of our plants to-day bear names absolutely misleading and erroneous. There may have been, indeed, a good excuse for all this years ago; but can we say that to-day we have a right, not only to use these wrongly given names, but to teach them to our children in preference to names that are more correct?

It seems to me that the advocates of common names are every whit as tyrannical in their requirements as the advocates of strict botanical nomenclature. If a common name is to mean anything it must convey the impression of one plant and one plant only; or, at the most, one genus and one genus only, to the hearer. Now, in such a case what are we to do with all the local names of the same plant? Must we not decree that they should yield to some better recognized popular name, if our common name is to mean anything? This being so, why is there any objection to using the scientific name as being most generally recognized and most accurate? As an illustration, let me name a case already mentioned. Every one knows the pretty Houstonia, and no one, I think, finds the Latin name difficult to learn or awkward to pronounce. I was always taught to call it Houstonia, and to bear in mind that it was *Houstonia cærulea*, whether I needed to use its specific name or not. Now, the writer in *Saint Nicholas* says it is "simpler to call the pretty things Bluets." Well, perhaps it is "simpler," if any one by an exertion of will power refuses to learn or say Houstonia—but does the name identify the plant? In my experience I have found for one person who called the flower Bluets, half a dozen who called it Innocence; and, furthermore, have heard at least the names Spring Beauty, Day's Eye and Eyebright applied to this very plant in different localities. All three of the names last mentioned belong properly to other plants, so perhaps the illustration needs no further comment.

It seems to me the real question, therefore, is, whether it is better to use fixed Latin names or fixed common names *in lingua vernacula* for our plants. I do not think any reasonable person can for a moment doubt what the answer should be. The Latin scientific name is recognized the world over, the "common" name, as a rule, only in the sense of being local. Now, if our children are to be taught the names of plants, is it common sense to teach them the name that is likely to be of the least use to them, in preference to a name that can always be accurately used the world over? Of course I admit that "no hard and fast line can be drawn between the two classes of names;" for every language will have its own popular names for plants, and may adapt the Latin names more or less to its own form. Such common names have their own value, and do not detract in any way from the argument.

I have said nothing as to the vexed subject of differences in scientific botanical nomenclature, and for obvious reasons cannot enter on it here. Some changes in scientific nomenclature are necessary for scientific accuracy, and to express the advances and readjustments of our best knowledge of systematic botany, while other changes are made, whether rightly or wrongly, for the purpose of establishing a uniform system of nomenclature. Whatever may be the views of particular botanists on these matters, the tendency is toward the greatest scientific accuracy of classification and the most uniform system of nomenclature—a tendency that no one can claim exists anywhere in the labors of those who tell us that the common names of plants are to be taught and used in preference to the Latin names that sooner or later every lover of flowers must adopt.

Boston. *Edward L. Rand.*

Notes on a Few Plants in West Virginia.

To the Editor of Garden and Forest:

Sir.—The Trilliums (*T. grandiflorum* and *T. erectum*) in this region are especially luxuriant and abundant, and often afford specimens nearly twice the size of the common type. The last season I met with a clump of the white species, consisting of four stout stems, measuring twenty inches to two feet in height, and with leaves and flowers corresponding in size. Of the purple species, which is scarcely less common, the flowers will measure uniformly two inches and a half or three inches across, or nearly double that given by some botanists. Do not these facts suggest the capabilities of these beautiful plants, and the hope that a race might be secured larger and superior to any yet seen in cultivation?

The Pennsylvania Anemone, familiar to most observers, is another common plant in low, wet grounds, and of a specially vigorous growth. This, with its large white, waxy flowers, is always an attractive plant, but in many specimens as they grow here, and possibly elsewhere, although I have never seen attention called to it, the upper leaves (composing the involucre) are most beautifully margined with brown, which, if it could be reproduced in cultivation, as in the more distinctly marked specimens, would add much to its value as an ornamental plant.

Valeriana pauciflora, which Gray notes as rare or local, is here found in rather frequent, though always in restricted or sparse colonies. With the singularly long and slender tube of the pale purple corolla, and the rather odd-looking (pinnately divided) leaf by reason of the comparatively large terminal leaflet, this herb will claim the interest of most observers.

Another plant which both Gray and Wood note as rare, is here abundant, covering large areas in shaded ravines—namely, *Cedronella cordata*. In habit and appearance this is suggestive of the Ground Ivy (*Nepeta glechoma*), to which it is nearly related; it is, however, a handsomer species, with larger leaves and flowers, the latter being fully an inch long, and it would, doubtless, make a desirable plant for rock-work.

The Crimson Balm or Bergamot (*Monarda didyma*), sometimes cultivated and well known for the intense coloring of its flowers and as a fragrant Mint, botanists tell us is nowhere common or abundant. It is here one of the most familiar and characteristic of the summer wild flowers, growing in many damp, shaded grounds, and more conspicuously on the margins of small streams, often in patches of considerable extent. Occasionally flowers of the brightest and purest purple—even more pleasing and scarcely less striking—may be seen growing among the scarlet, both forms being well worthy of cultivation.

White forms of Spreading Phlox (*P. divaricata*) and Greek Valerian (*Polemonium reptans*) have here repeatedly come under my observation; also a white variety of *Lobelia syphilitica*. I have also noted specimens of the Virginia Lungwort (*Mertensia Virginica*), with the unfolded flower entirely pink or lilac, the type being pink in the bud and blue in the full flower. I have often met with specimens of *Rudbeckia hirta*, with their rays blotched with brown at their base, forming a distinct ring about the cone, adding much to the beauty of the flowers. These examples serve further to illustrate that

there are varieties or forms, as yet but little known, of many of our most familiar flowers, which possess, in a practical and æsthetic point of view, all the interest and value of an entirely new species, and which are well worthy of the attention of lovers and cultivators of wild flowers.

Fairview, Hancock Co., W. Va. *W. E. Hill.*

A Chart of Standard Colors.

To the Editor of Garden and Forest:

Sir.—Mr. C. R. Orcutt (vol. ii., page 622) points out a want very much felt by every one having to describe flower colors. It is, however, a fact that, owing to a difference in the construction of the eye, certain colors have a different appearance to one or the other observer. It would be a great advantage to science in general to have such a standard chart. If it be undertaken, it ought to be compiled by a commission of scientific men, including some good authorities. The large work of the French chemist, Chevreuil, might form the basis to work upon. A few years ago there was also a very exhaustive article in the *Gardeners' Chronicle*, which would be valuable in that matter. It apparently came from a competent authority.

Baden-Baden. *Max Leichtlin.*

To the Editor of Garden and Forest:

Sir.—Mr. C. R. Orcutt pleads (vol. ii., page 622) for a chart of standard colors. Such a chart is certainly a desideratum to all naturalists. But the difficulties in the way of its preparation and publication are very great, and I do not look for such a chart in many years, if ever.

In my own practice I use for this purpose an agent's sample-case of spool silks. The Brainerd & Armstrong Company, of New York, make a very neat and compact pocket sample-case which contains 220 named colors. This affords the best means which I have found of securing uniformity in observation and nomenclature between myself and assistants; and, in fact, it leaves little to be desired.

Ithaca, N. Y. *L. H. Bailey.*

Easter Flowers.

To the Editor of Garden and Forest:

Sir.—The most beautiful display of Easter flowers made by any New York florist this year filled the windows of a large shop on Broadway between 27th and 28th Streets. On Thursday the principal window showed a line of potted Hyacinths, chiefly pink and lilac, set in a mass of Ferns. Behind these stood, in the centre, a large crimson Azalea with a Cytisus on either side, and beyond Roses, smaller plants of Cytisus and Lilies, all in baskets tied with ribbons of harmonizing colors. Back of this line were large Azaleas of paler pink varieties and a mass of Lilies and Bush Daisies, while lilac Cattleyas hung in baskets from the top of the window. The general effect was pink and white and green with dashes of yellow and lilac, and the window, as a whole, was both brilliant and harmonious. On Saturday the arrangement was somewhat changed; more white flowers, chiefly Lilies, being used with pink Hydrangeas, and more baskets of Orchids, some of them very beautifully grown and arranged. Inside the shop the most remarkable feature was *Lilium auratum*, in large numbers and excellently grown.

In other shop-windows less care had been paid to the arrangement of the plants. But I noted one place, temporarily hired by a florist of upper Sixth Avenue, where a very beautiful effect had been achieved in the interior. Rows of staging ran along the walls and down the centre of the long room, and supported, on the top shelves, files of large plants of Cytisus, making two little avenues of brilliant yellow, beneath which the other plants were grouped. There seemed few novelties among either potted plants or cut flowers. As was the case last year, many Orchids could be found; but the main reliance for plants was placed on Lilies, Hydrangeas, Spiræas, Cytisus, Bush Daisies and Azaleas, and for cut flowers, on Roses. The Hydrangeas were splendid, and the Azaleas, most often grown as standards with wide, round heads, had reached their highest point of perfection. Lilacs were few and very inferior, and spring bulbs were not conspicuous, Daffodils being more plentiful than other sorts, but poor as contrasted with last year. The Lilies were fine, but universally marred by the loss of their anthers. Of course there is an excuse for this removal, but no one will deny that it greatly injures the beauty of the flowers, and to some persons it totally destroys their charm. Without the bright yellow sparks they seem flat, stale and unprofitable to the eye. There is no flower so much in demand as this for the adornment of churches. It is the accepted symbol of innocence and grace, and, moreover, has a peculiar consecration in Catholic minds from its time-honored dedication to the Virgin. But to take off its anthers destroys its ecclesiological signification for Catholics—though perhaps in this prosaic time and land they are not aware of the fact. They do not need to be told that the Lily is the Virgin's flower because "the pure white petals signify her spotless body and the golden anthers her soul sparkling with divine light"? However, if a Lily is purchased with some of its blossoms in bud, these at least will ultimately delight the possessor with both spotless petals and sparkling anthers.

New York florists complained that the damp, dark season had reduced their supply of flowers, but they must have done well with what they had from the empty look of their shops on Saturday night. Easter has, in fact, at least in this city, taken the place lately held by Christmas, and before that by New Year's Day, as the florist's busiest time. His trade then is largely with potted plants, of course; but gifts of cut flowers and even set pieces are now the rule, not the exception, and every parlor is abloom before the sun of Easter Sunday has set. Perhaps the profits of the Easter trade are not so great as those of the midwinter festival, but certainly its volume is getting to be surprisingly great.

New York. *S.*

Recent Publications.

The Horticulturists' Rule Book. By L. H. Bailey. New York Garden Publishing Company.

This little compendium embraces in its 200 pages much information which a gardener needs in his daily practice, together with some statistics and miscellaneous matter, which are interesting enough but foreign to the purpose of a handbook of this character. The best part of the work will be found in the first four chapters, which treat of insects injurious to plants and plant diseases, with the approved remedies for each. In no department of horticulture has the advance in knowledge been so rapid as it has been in this particular field during recent years. Discoveries have followed each other in such quick succession that the fruit-grower or gardener who reads the current literature of his art is quite bewildered by the variety of treatment recommended to prevent or cure the injuries from insects and fungi. The sufferers from these enemies have reason to thank Professor Bailey for having brought within the compass of fifty pages all the well established facts on these subjects that will prove of immediate practical service to them. This digest of the results of so much study and experiment is well arranged and indexed so that any one of ordinary intelligence can inform himself as to the character and composition of all the most deadly insecticides and the safest and most effective way of applying them. And the same is true of the remedies and preventives of fungous diseases. In no other work with which we are acquainted can there be found so much information on these subjects, in a compact and accessible form, and embodying the most recent experience.

While this is the best feature of the book, there are many other collections of tables, rules, recipes and directions for practice which help to make it a singularly useful manual for convenient reference.

Recent Plant Portraits.

Botanical Magazine, March:

Zamia Wallisii, *t.* 7103; a short-stemmed or nearly acaulescent species from Guatemala.

Satyrium membranaceum, *t.* 7104; a beautiful terrestrial Orchid, with bright carmine flowers, deepening to crimson on the back of the lip, from the neighborhood of Port Elizabeth, in South Africa.

Arisæma Wravi, *t.* 7104; a native of the Malay Peninsula.

Lathræa clandestina, *t.* 7106; a beautiful parasite of southern Europe, now successfully cultivated at Kew, where, planted on the roots of a Willow, it has increased, and flowered profusely.

Papaver rupifragum, var. Atlanticum, *t.* 7107; a native of the Great Atlas south of the City of Morocco, where it grows at an elevation of from 6,000 to 7,000 feet.

Allium Kansuense, *Gartenflora*, March 1st.

Allium cyaneum, *Gartenflora*, March 1st.

Bilbergia × Perringiana (B. nutans × Liboniana), *Gartenflora*, March 15th.

Eupatorium probum, *Gardeners' Chronicle*, March 15th; a soft-wooded greenhouse plant, a native of Chili, whence it was introduced into England several years ago by the late Mr. Wilson Saunders, although not previously described, as pointed out by Mr. N. E. Brown, who now gives characters for it.

Notes.

Our correspondent, Mr. Rolfe, the English authority on Orchids, has been appointed an assistant editor of *Lindenia*, the great *Iconographia des Orchidées*, now in course of publication in Belgium.

Part I. of the new volume of *Hooker's Icones Plantarum* (vol. xx.) is devoted to different plants, principally Stapelias belonging to *Asclepiadaceæ*, the descriptions being furnished by Mr. N. E. Brown, of the Kew Herbarium.

A great "flower festival," similar to the one which was so successful last year, is being organized in Detroit by the *Journal* of that city, and will open on the 22d of April. The proceeds will be divided between a number of local charities.

The Manchester *Guardian* states that Dr. Jones, of Acton Hall, has discovered a chemical process by which the juice of apples and grapes can be manufactured into an agreeable non-alcoholic beverage which will keep for a number of years without fermentation.

A bundle of California-grown Licorice-roots was lately sent to the office of the *Tulare Register*. The editor of that paper asserts that the roots have the genuine licorice flavor and sweetness and cannot be distinguished from the imported article, and that the plant grows like a weed.

Premiums to the amount of $250 were offered by John Gardiner & Co., for the best collection of spring flowering bulbs to be competed for at the Exhibition of the Pennsylvania Horticultural Society. The first prize was won by William Jamison, and the second by J. W. Colflesh. A box of Crocuses shown by W. K. Harris received special mention.

Prunus Davidiana, and its variety with white flowers, attracted much attention from visitors to the *Jardin des Plantes* in early March, as did a fine specimen of *Parrotia Persica*, covered with blossoms. This tree, still little known outside of botanical gardens, belongs to the Hamamelis family. It is especially ornamental by reason of its foliage, which does not appear till later in the season. Its flowers, of which the most conspicuous parts are the brownish red stamens, have little value.

L'Orchidophile remarks upon the flowering in the collection of M. Finet, in Argenteuil, of a *Lælia pumila* with white flowers, a variety not previously described; while another journal, the *Lyon Horticole*, mentions the exhibition at a meeting of the *Association Horticole Lyonnaise* of a giant variety of *Lycaste Skinneri*. It is called by its owner, M. Comte, *L. Skinneri grandiflora*, and is said to be remarkable for the extraordinary size attained by its leaves and flowers, which surpass anything hitherto recorded of this very variable Orchid.

According to the *Manufacturers' Record* 542,145 gallons of so-called Olive-oil were sent from Italy to this country during the year which ended June 30th, 1889, but its purity may be estimated from the fact that, within the same period, we sent to Italy 65,250 gallons of Cotton-seed-oil. Since that time our exports of this product have greatly diminished, possibly because, since the discovery of a test for the purity of Olive-oil, the Italian authorities have been able to control somewhat its manufacture. This discovery was made not long ago by the celebrated chemist, Becchi, and his test is said to be entirely reliable.

From an instructive bulletin lately issued by Professor Whitcher, of the New Hampshire Experiment Station, it appears that the commercial fertilizers sold in that state do not contain enough potash for the requirements of the soil there. It also appears that home-mixed chemicals can take the place of barnyard-manure as a source of plant-food. For the state in question a fertilizer should contain from nine to eleven per cent. of phosphoric acid, from nine to fifteen per cent. of potash, and from two to four per cent. of nitrogen. The prepared fertilizers in the market average eleven per cent. of phosphoric acid, two and a half per cent. of potash, and two and a half per cent. of nitrogen.

The term "gun fences," used by Mr. A. D. Mellick, Jr., in his recently published book, "The Story of an Old Farm," has, doubtless, puzzled many of his readers. Replying to a question put by one of them in the *Evening Post*, he says that gun fences, as formerly used in New Jersey, were "constructed of rails, often formed of lopped tree-branches, resting one end on the ground and the other in the air at an angle of about forty-five degrees, each one being supported a little above the centre by small cross stakes shoved into the ground. They were popular with the early settlers, because of their being so easily and rapidly built, owing to their needing neither post-holes nor hewn posts. At a distance the rails did not look unlike a lot of guns stacked in line, hence the name."

The second part of Mr. H. Nehrling's "North American Birds" has appeared. It contains the completion of the account of the Mocking Bird, and descriptions of the Cat-bird, the Brown Thrasher, the Long-billed Thrasher, the Curve-billed Thrasher, the Crested Thrasher, the American Dipper, the Bluebirds, and the beginning of the Gnat-catchers and Warblers (*Sylviidæ*). The work will be finished in twelve parts, illustrated by thirty-six colored plates from drawings by Ridgway, Goering and Muetzel. It is published by George Bramder, 286 West Water Street, Milwaukee. The first part has received the highest praise from naturalists competent to judge of its value, and its excellence is fully sustained in the number before us.

The first number of *Le Journal des Orchidées*, a bi-monthly devoted to the cultivation of Orchids, has reached us. This new journal, the editor, M. Lucien Linden (Secretary of the *Orchidéene*, and editor of *Lindenia*, etc.), tells us, has no scientific pretensions, and no other ambition than to be practically useful in giving as much information as possible upon the care and cultivation of Orchids. *Le Journal des Orchidées* is published at Brussels and will appear on the 1st and 15th of each month. It is a handsomely printed octavo of sixteen pages, without illustrations; and the first number, which contains a number of good articles, fully justifies the claim of the editor. The subscription price is ten francs a year, which may be sent to the office of the journal, 100 Rue Belliard, Brussels.

A western perfumer advertises the "phenomenal sale" of a new extract which he calls "Golden Rod perfume." If it has no more odor than the blossoms which, as he says, have won popularity as our "national flower," any sale, however small, must indeed be regarded as phenomenal; nor does it seem probable that the single species of Solidago (*S. odorata*), the leaves of which emit, when crushed, an anisette-like perfume, can be obtained in sufficient quantities for extensive distillation. There is frequent similar proof, however, that in this, as in other trades, it is difficult to supply a succession of "novelties" and fit them with attractive names without trusting a little to the credulity of the public. For example: if the Golden-rod is popular, the Orchid is "fashionable," and this is even better for advertising purposes. Therefore "Orchid perfumes" are now in the market bearing the names of several kinds, some of which have no fragrance whatever. Sometimes the makers are so discreet as to say no more in their advertisements than that they "reproduce" the odor of the given flower; but the name on the bottle seems like an attempt to make the confiding purchaser believe that he can inhale from it the actual breath of some rare, costly exotic.

American pomology has lost an ardent devotee in the death of Mr. Charles Gibb, which occurred in Cairo, Egypt, on the 8th of March. Mr. Gibb was born in Montreal in 1845, was graduated from Gill University at the age of twenty. On account of impaired health he sought out-door occupation, and after a visit to Europe he spent some time with prominent horticulturists in New York and New Jersey, an experience which strengthened his taste for fruit-culture and led to his adoption of that pursuit. Fortunately he was possessed of ample means, and on his return to Canada he purchased a large tract of land at Abbottsford, Quebec, where he established trial grounds for exotic trees and shrubs and planted extensive orchards especially of the more desirable Russian fruits. In 1882 Mr. Gibb visited Russia in company with Professor Budd, and the work which they accomplished in introducing Russian fruits to notice is well known. In June of last year he left Montreal for a journey through the East in the interest of fruit-culture and had visited Japan, China and India and was on his way home when death overtook him in Egypt. Mr. Gibb was a man of modest and retiring disposition, but his home at Abbottsford was the seat of wide and generous hospitality to all those who were interested in horticultural pursuits. He was singularly unselfish, and the horticultural and kindred societies of the Dominion, in all of which he took an active interest, bear witness to his public spirit. He prepared numerous papers which have been published during the last fifteen years in the reports of the Montreal Horticultural Society, the Ontario Fruit-Growers' Association, the American Pomological Society and similar organizations, most of which are of permanent value, especially those which relate to the fruit-trees of northern Europe, their nomenclature and their value for cultivation in the orchards of this continent.